

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:		Date of mailing (day/month/year) 28.12.2004
Applicant's or agent's file reference P04083PCT		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/JP2004/015244	International filing date (day/month/year) 15.10.2004	Priority date (day/month/year) 24.10.2003
International Patent Classification (IPC) or both national classification and IPC F16D48/02		
Applicant Komatsu Ltd.		

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/015244

Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2004/015244

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims	7-9	YES
	Claims	1-6, 10-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

2. Citations and explanations:

Document 1: JP 2001-146928 A (Komatsu Manufacturing Co., Ltd.), 29 May 2001; entire text and all drawings & US 6405844 B1; entire text and all drawings

Document 2: JP 7-1993 A (Caterpillar Inc.), 6 January 1995; column 6, lines 7-14, and fig. 3 & US 5380257 A; column 4, line 57 to column 5, line 4, and fig. 3 & EP 616918 A1

Document 3: JP 4-50519 A (Isuzu Motor Ltd.), 19 February 1992; page 3, lower left column lines 6-8, and fig. 1

Claims 1, 3-6 and 10-12

The inventions set forth in claims 1, 3-6 and 10-12 do not involve an inventive step in the light of documents 1 and 2, cited in the international search report. A person skilled in the art could easily apply the technique disclosed in document 2 for controlling clutch transmission torque in accordance with engine revolution speed, in an engine power transmission device disclosed in document 1.

Claim 2

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2004/015244

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The invention set forth in claim 2 does not involve an inventive step in the light of documents 1 to 3, cited in the international search report. A person skilled in the art could easily apply the technique disclosed in document 3 for controlling clutch transmission torque in accordance with engine revolution speed and the degree of slot opening, in an engine power transmission device disclosed in document 1.

Claims 7-9

The inventions set forth in claims 7 to 9 are not disclosed in any of the documents cited in the international search report, and are not obvious to a person skilled in the art.

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **28.12.2004**

Applicant's or agent's file reference

P04083PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/015244

International filing date (day/month/year)

15.10.2004

Priority date (day/month/year)

24.10.2003

International Patent Classification (IPC) or both national classification and IPC

F16D48/02

Applicant

Komatsu Ltd.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/015244

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/015244

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims	7-9	YES
	Claims	1-6, 10-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: JP 2001-146928 A (Komatsu Manufacturing Co., Ltd.), 29 May 2001; entire text and all drawings & US 6405844 B1; entire text and all drawings</p> <p>Document 2: JP 7-1993 A (Caterpillar Inc.), 6 January 1995; column 6, lines 7-14, and fig. 3 & US 5380257 A; column 4, line 57 to column 5, line 4, and fig. 3 & EP 616918 A1</p> <p>Document 3: JP 4-50519 A (Isuzu Motor Ltd.), 19 February 1992; page 3, lower left column lines 6-8, and fig. 1</p> <p>Claims 1, 3-6 and 10-12</p> <p>The inventions set forth in claims 1, 3-6 and 10-12 do not involve an inventive step in the light of documents 1 and 2, cited in the international search report. A person skilled in the art could easily apply the technique disclosed in document 2 for controlling clutch transmission torque in accordance with engine revolution speed, in an engine power transmission device disclosed in document 1.</p> <p>Claim 2</p>			

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/015244

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

The invention set forth in claim 2 does not involve an inventive step in the light of documents 1 to 3, cited in the international search report. A person skilled in the art could easily apply the technique disclosed in document 3 for controlling clutch transmission torque in accordance with engine revolution speed and the degree of slot opening, in an engine power transmission device disclosed in document 1.

Claims 7-9

The inventions set forth in claims 7 to 9 are not disclosed in any of the documents cited in the international search report, and are not obvious to a person skilled in the art.